CLAIMS

1. (Original) Method for depositing at least one layer on at least one substrate in a process chamber, the layer comprising at least two components, at least a first metallic component being vaporized into a carrier gas, in particular a heated carrier gas, by means of a discontinuous injection of a first starting material in the form of a liquid or a first starting material dissolved in a liquid, and at least a second component being supplied as a chemically reactive starting material, characterized in that the starting materials are introduced alternately into the process chamber.

2. (Currently Amended) Method according to Claim 1 ~~or in particular according thereto,~~ characterized in that the second starting material is a chemically reactive gas or a chemically reactive liquid.

3. (Currently Amended) Method according to claim 2 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the chemically reactive liquid is vaporized.

4. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the at least two starting materials (3) are injected alternately into a vaporization chamber (4).

5. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized by each starting material (3) being individually associated with a vaporization chamber (4).

6. (Currently Amended) Method according to claim 5 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the process chamber (2) and optionally also the vaporization chamber (4) is purged with an inert gas (7) or evacuated after each injection.

7. (Currently Amended) Method according to claim 4 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the carrier gas (7) in the vaporization chamber (4) is saturated with the starting material as a result of the injection of the starting material.

8. (Currently Amended) Method according to claim 4 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the mass of gas that is brought into the vaporization chamber (4) with each injection pulse is determined by means of the gas admission pressure, the pulse length, the pulse pause or the mass flow.

9. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that at least one inert carrier gas (16) is introduced directly into the process chamber (2).

10. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the chemically reactive starting material in gaseous form is introduced into the process chamber directly as a gas (18).

11. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the chemically reactive starting material is an oxygen compound or a nitrogen compound.

12. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the chemically reactive starting material is O_2, O_3, N_2O, H_2O or NH_3.

13. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the process chamber is actively heated and in that the pressure in the process chamber is below or equal to 100 mbar, 50 mbar, 20 mbar or 10 mbar.

14. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the liquid starting materials or the solid materials or liquids dissolved in a liquid contain one or more of the following metals: Al, Si, Pr, Ge, Ti, Zr, Hf, Y, La, Ce, Nb, Ta, Mo, Bi, Nd, Ba, W or Gd.

15. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the layers are deposited conformally on highly structured structures, particularly three-dimensionally structured structures.

16. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the deposited layers are insulating, passivating or electrically conducting.

17. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto~~, characterized in that the layers consist of metal oxides, metal nitrides or metals.

18. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that the injection occurs by injector nozzles, which can be closed by valves~~, are~~ and set in such a way that nanolaminates, hyperstructures, nucleation layers, mixed oxides and gradient layers are produced.

19. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that a number of parallel and/or highly structured substrates are disposed side by side on at least one substrate holder, in particular a rotationally driven substrate holder.

20. (Currently Amended) Method according to claim 1 ~~one or more of the preceding claims or in particular according thereto,~~ characterized in that a number of planar and/or highly structured substrates are disposed in the process chamber vertically oriented one above the other and/or horizontally oriented side by side and/or oriented at angles between vertical and horizontal.

21. (Currently Amended) Apparatus for ~~carrying out the method according to one or more of the preceding claims, with~~ depositing at least one layer on at least one substrate in a process chamber, the layer comprising at least two components, at least a first metallic component being vaporized into a carrier gas, in particular a heated carrier gas, by means of a discontinuous injection of a first starting material

in the form of a liquid or a first starting material dissolved in a liquid, and at least a second component being supplied as a chemically reactive starting material, characterized in that the starting materials are introduced alternately into the process chamber comprising a process chamber (2), having a gas inlet member (15), with which one or more vaporization chambers (4) are associated upstream, which vaporization chambers (4) each have at least one injector unit (5) for discontinuously supplying a liquid (3).